DOCUMENT RESUME

ED 228 940 HE 016 109

AUTHOR Lee, Barbara A.
TITLE Undergraduate Postsecondary Education.
INSTITUTION National Commission on Student Financial Assistance, Washington, DC.
PUB DATE 2 Aug 82
NOTE 57p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Community Colleges; *Educational Finance; *Enrollment Trends; Financial Support; *Postsecondary Education; Private Colleges; State Colleges; *Student Characteristics; *Undergraduate Study
IDENTIFIERS *National Comm on Student Financial Assistance

ABSTRACT

Undergraduate postsecondary education is discussed in regard to the size of the enterprise, student enrollments, and financing. In addition, attention is directed to the availability of information about undergraduate postsecondary education. The number of institutions offering postsecondary education, at both the undergraduate and graduate levels, was 3,270 in 1980. In addition, about 7,700 noncollegiate schools provided some form of postsecondary training in 1980. While about 3.6 million students were enrolled in higher education in 1960, enrollment had reached 8.5 million in 1970 and 12.4 million in 1981. Undergraduate enrollment increased at a somewhat higher rate between 1970 and 1981 than did overall enrollments. Enrollment is also considered by gender, full- and part-time status, race/ethnicity, age, region, state, academic program, noncredit courses, noncollegiate institutions, adult education. In addition, major sources of income to public and private colleges and universities are shown as a percentage of total current funds between 1970 and 1980. Changes in the proportion of institutional revenues during the decade are also examined, along with funding for credit and noncredit activities, voluntary support, tuition, student aid, and faculty salaries. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED228940

UNDERGRADUATE POSTSECONDARY EDUCATION

A Paper Prepared for the

NATIONAL COMMISSION ON STUDENT FINANCIAL ASSISTANCE

by

Barbara A. Lee

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

National Commission on Student Financial Assistance

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

August 2, 1982

The opinions expressed do not necessarily reflect the position of the National Commission on Student Financial Assistance.

HE 016 107

UNDERGRADUATE POSTSECONDARY EDUCATION

This paper will describe the "terrain" of undergraduate postsecondary education.[1] It will discuss the size of the postsecondary education enterprise, student enrollments in undergraduate education, and the financing of postsecondary education. In addition, the description will comment upon the availability of information about undergraduate postsecondary education.

I. Number and Type of Institutions

The number of institutions offering postsecondary education, at both the undergraduate and graduate level, stood at 3,270 in 1980. This figure includes 1,981 universities and four year colleges and 1,289 two-year community colleges (Condition of Education 1982, p. 136). In addition to this number of traditional institutions of higher education, approximately 7,700 noncollegiate schools provided some form of postsecondary training in 1980 (Condition of Education 1982, p. 136). Nearly

1 Every effort has been made to obtain data for undergraduate education alone. However, in many instances (especially in the area of financing higher education), data are not available separately for undergraduate education. In those instances, data for all of higher education are used. The most recent data available in each case have been used.

all of these 11,000 institutions provide undergraduate education or training; according to the Carnegie Council, only about 100 schools are focused exclusively on post-baccalaureate education (Carnegie Council, 1978).

Although the number of colleges and universities grew quickly during the 1960s, growth slowed during the 1970s. The number of colleges and universities (including branch campuses) increased by 15 percent (from 2,836 to 3,270) between 1970 and 1980 (Condition of Education 1978 and 1981), while the number of colleges and universities had increased by 45% (from 1,959 to 2,836) between 1960 and 1970. Despite the popular impression that a large number of colleges ceased operation during the 1970s, the decade still showed a net gain of 299, for 135 colleges and universities closed their doors between 1970 and 1979 (Digest of Education Statistics, 1981, p. 116). Seventy-two of the colleges (53 percent) were four year colleges or universities, and sixty-three were two year colleges; nineteen (14 percent) were publicly controlled and 126 (86 percent) were privately controlled. The number of noncollegiate schools offering postsecondary education or training, however, declined somewhat during the 1970s. While the National Center for Educational Statistics (NCES) reported 8,846 such schools in 1973, the number fell to 7,700 in 1980--a decline of 13 percent (Condition of Education, 1977 and 1981).

But the most spectacular change in institutional numbers has

occurred in the two-year community college sector. While NCES reported 508 two-year colleges in 1960, there were 1,063 in 1970 and 1,289 in 1980--an increase of 109 percent between 1960 and 1970, and an increase of only 13 percent between 1970 and 1980. Nearly all of the growth in the number of two year colleges was in the public sector, for there were 310 public two-year colleges in 1960, 793 in 1970 (an increase of 156 percent 1960-70), and 949 public two-year colleges in 1980 (an increase of 20 percent from 1970 to 1980).

The number of four year colleges and universities increased only slightly between 1970 and 1980. The total number of four year colleges increased from 1,773 in 1970 to 1,981 in 1980, an increase of 12 percent. Public four year institutions increased by 8 percent, while the number of private four year colleges and universities increased by 13 percent over the decade.

II. Enrollments

Enrollments in colleges and universities, which had expanded so rapidly between 1960 and 1970, grew at a slower rate between 1970 and 1981. While about 3.6 million students were enrolled in colleges and universities in 1960, enrollments had more than doubled by 1970, when 8.5 million students attended colleges and

universities. By 1981, 12.4 million students were attending colleges and universities--an increase of 45 percent from 1970.

Undergraduate Enrollments. Undergraduate enrollment increased at a somewhat higher rate between 1970 and 1981 than did overall enrollments. While 5.8 million undergraduates were enrolled in college in 1970, that figure increased by nearly 64 percent to 9.5 million students in 1981. While undergraduates represented 73 percent of all college students in 1970, they consitituted 77 percent of all college students in 1981.

Enrollment shifts by type and control of institution demonstrate the changes in the higher education enterprise between 1970 and 1981. (Because data on undergraduates are not available separately for 1970 by type and control, total enrollments will be used). In 1970, 5.8 million students, or 73 percent of all students, attended public colleges and universities. By 1981, 78 percent of all students attended public colleges and universities. Similar shifts are evident by type of institution as well. In 1970, 26 percent of all students attended two-year community colleges. By 1981, 38 percent of all college students attended two-year colleges, nearly all of them public two-year colleges (Chronicle of Higher Education, July 14, 1982, p. 10).

Enrollment by Gender. Enrollment shifts by gender between 1970 and 1981 demonstrate that women achieved more than parity in college-going rates. Women began attending college in larger

numbers, and in 1981, 52 percent of all college students were women. In 1970, 41 percent of the college students were women. The proportion of women enrolled in college may continue to increase; in 1980, 53 percent of the freshmen were women.

Enrollment by Status. Shifts in enrollment patterns from predominantly full time students to larger proportions of part time students have affected most colleges and universities, especially two-year colleges. In 1970, just over two-thirds (68 percent) of all students were enrolled full time in colleges and universities. As the decade progressed, a larger proportion of students enrolled part-time, and by 1981, full time student enrollment had declined to 58 percent of all students. While this overall figure represents a substantial increase in part time students, the figures for public community colleges are even more striking. In 1981, 65 percent of all students enrolled in public two year colleges were enrolled part time.

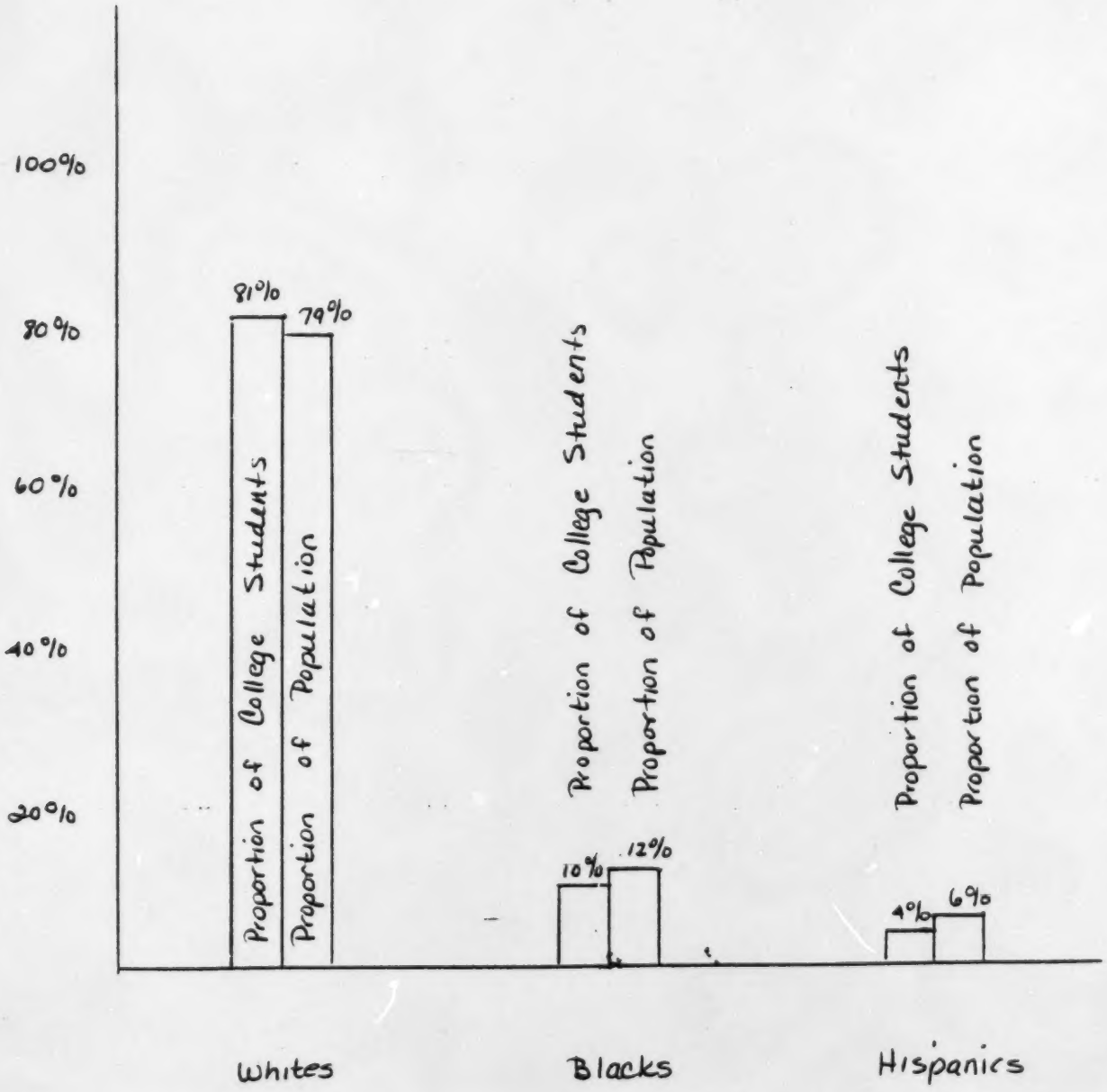
Enrollment by Race/Ethnicity. Changes have occurred in the racial and ethnic composition of college enrollments as well, but parity has not yet been achieved. In 1970, 90 percent of all college students were white, 6 percent were black, and just under 2 percent were of Spanish origin. Participation rates rose for members of racial and ethnic minority groups, although minorities are still underrepresented in college in proportion to their presence in the population. The Census Bureau estimated that in 1980, nearly 81 percent of all college students were white, 9.8

percent were black, and 4.3 percent were of Spanish origin. (The remaining five percent are members of other minority groups). In 1980, blacks represented about twelve percent of the population, while persons of
Spanish origin accounted for approximately six percent of the population (see Figure 1).

Enrollment by Age. College students tended to be older, on the average, in 1980 than 1970's group of college students. In 1970, the median age of college students was 20.9, while in 1980 the median age had climbed to 22.4 (Census Bureau, CPS P-20, no. 362). The proportion of students over age 35 has increased significantly over the last decade. In 1972 (the first year in which the Census Bureau collected this information), 8.6 percent of all college students were age 35 or older. In 1980, nearly 11 percent of all college students were 35 or over. Enrollments of over-35 students peaked in 1979, when 12.3 percent of all students were 35 or older.

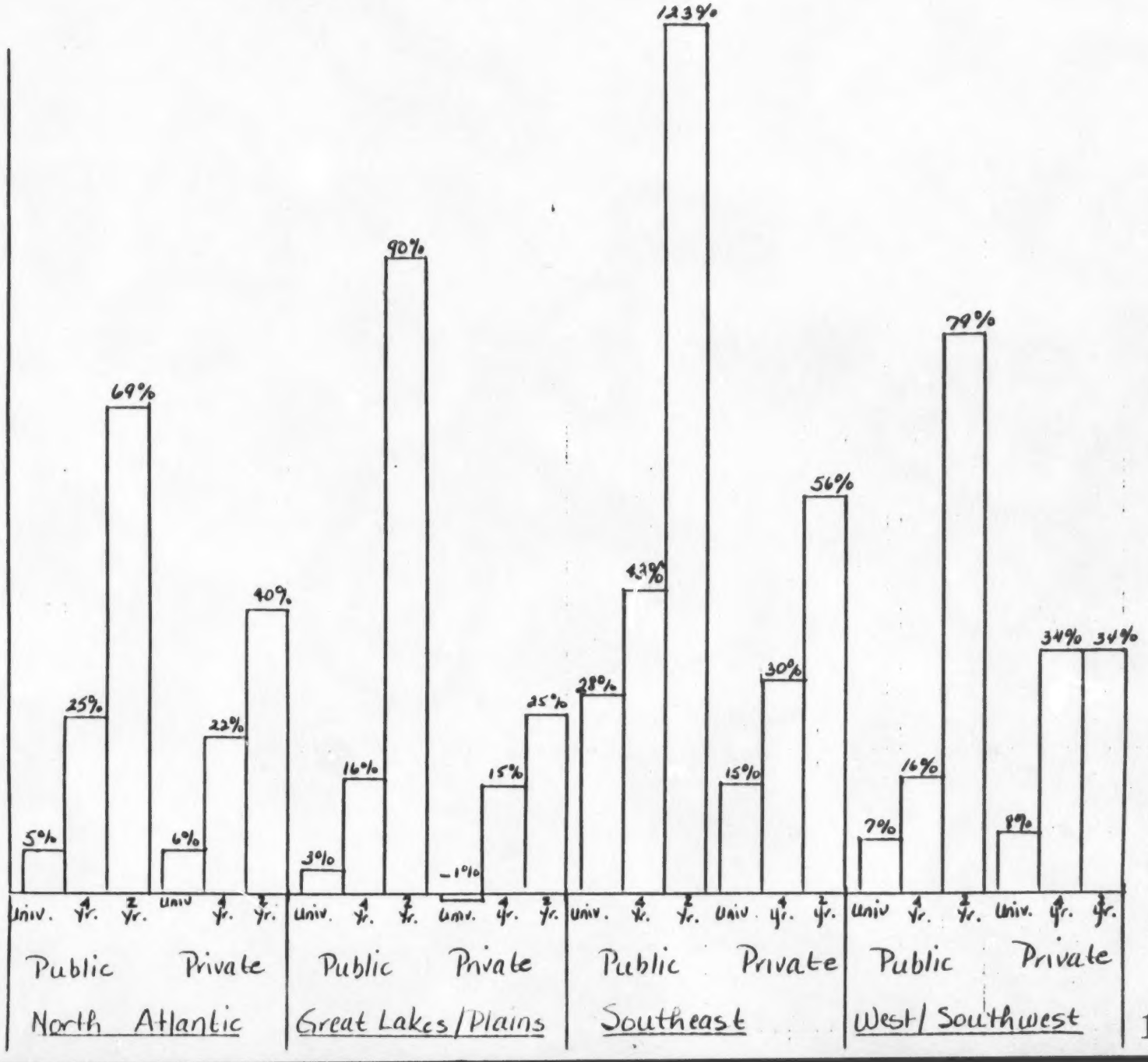
Enrollment by Region. Shifts in enrollment have also occurred on a geographic basis. Although enrollments increased in all regions of the country between 1970 and 1979, the largest increases were registered in the Southeast United States. For example, headcount enrollment at public institutions in the Southeast increased by 123 percent in public two-year colleges, 28 percent in public universities, and 43 percent at other four-year public colleges between 1970 and 1979. (See Figure 2 for

Figure 1. Enrollments in Higher Education by Race/Ethnicity, compared with Racial/ Ethnic Representation in U.S. population-- 1980



Source: Bureau of the Census

Figure 2. Percentage Change in Total Headcount Enrollment, by Type and Control and by Region, 1970-1979



Source: ACE/NCES. Trends & Patterns: A Study of Enrollments in Higher Education, 1970-79, p. 21.

more information concerning enrollment changes by region).

Enrollments shifted between states and regions as well as within regions. Between 1969 and 1979, enrollments mirrored the population shifts to the south and west. Table 1 shows undergraduate enrollments by state for 1969 and 1979 as a proportion of total undergraduate enrollment.

Enrollment by Academic Program. During the last decade, undergraduate enrollments and degrees awarded have changed by academic major as well. Degrees awarded by academic field shifted dramatically between 1970 and 1979. For example, while 13 percent of all undergraduates received degrees in business in 1970, by 1979 the percentage had risen to 19. Baccalaureate degrees in engineering rose from 3 percent of all undergraduate degrees in 1970 to 7 percent in 1979. Declines were also dramatic: students receiving bachelor's degrees in education dropped from 21 percent in 1970 to 14 percent in 1979; baccalaureate degrees in the social sciences dropped from 19 percent in 1970 to 12 percent in 1979. Table 2 provides further information on the changes in degree awards over the past decade.

The number of degrees awarded, while an important tool for manpower planning, is not a useful measure either of attendance patterns by students or of higher education's productivity. While total enrollment increased by 42 percent between 1970 and 1980, the number of degrees awarded increased at a slower rate. The number of baccalaureate degrees awarded in 1980 was only 11

Table 1. Undergraduate Enrollment by State for 1969 and 1979, and % Change of National Share of Enrollment, 1969-1979.

	Total Enrollment		Percent Change
	1969	1979	1969-1979
United States	5,826,415	8,820,657	
Alabama	83,968	134,613	+1%
Alaska	4,551	5,719	0
Arizona	64,269	157,975	+1
Arkansas	45,336	63,049	0
California	765,939	1,315,238	+2
Colorado	82,159	115,018	0
Connecticut	74,038	112,643	0
Delaware	14,802	24,756	0
District of Columbia	37,783	46,975	0
Florida	160,409	317,770	+1
Georgia	95,831	139,762	0
Hawaii	20,906	38,760	0
Idaho	25,345	33,483	0
Illinois	283,796	469,168	0
Indiana	139,700	180,170	0
Iowa	84,445	107,701	0
Kansas	84,027	100,040	0
Kentucky	79,655	104,014	0
Louisiana	93,841	125,734	-1
Maine	20,885	31,632	0
Maryland	93,513	158,274	0
Massachusetts	200,120	272,209	0
Michigan	267,009	421,616	0
Minnesota	117,785	156,474	0
Mississippi	57,046	85,216	0
Missouri	125,862	164,218	0

	Total Enrollment		Percent Change
	1969	1979	1969-1979
Montana	24,646	27,205	0%
Nebraska	54,045	72,045	0
Nevada	9,144	25,228	0
New Hampshire	22,139	34,677	0
New Jersey	114,110	215,827	0
New Mexico	29,722	40,060	0
New York	564,183	680,779	+2
North Carolina	112,922	223,956	+1
North Dakota	23,594	27,377	-1
Ohio	288,852	370,657	-1
Oklahoma	87,236	125,515	-1
Oregon	68,805	118,231	-1
Pennsylvania	274,192	368,974	-1
Rhode Island	26,972	45,122	-1
South Carolina	47,963	110,629	0
South Dakota	24,952	25,350	-1
Tennessee	103,566	162,065	0
Texas	330,062	551,215	0
Utah	60,678	79,438	0
Vermont	16,333	22,099	0
Virginia	87,147	167,146	0
Washington	118,227	146,775	0
West Virginia	50,098	61,352	-1
Wisconsin	139,255	207,250	-1
Wyoming	10,522	14,053	0

Table 2. Baccalaureate Degrees in Selected Fields of Study, 1970 and 1979 (as percent of all baccalaureate degrees)

	1970	1979
Agriculture	1%	2.5%
Architecture	<1%	1%
Biological Sciences	5%	5%
Business	13%	19%
Computer Science	<1%	1%
Education	21%	14%
Engineering	6%	7%
English	7%	4%
Fine Arts	5%	4%
Foreign Languages	3%	1%
Health Professions	3%	7%
Home Economics	1%	2%
Mathematics	3%	1%
Physical Sciences	3%	3%
Psychology	4%	5%
Social Sciences	19%	12%

Source: NCES, Digest of Education Statistics, 1971 and 1981.

percent higher than the number awarded in 1970; master's degrees increased by 8 percent and doctorates by only two percent (in fact, the number of doctorates awarded each year began to decline after a peak of 34,000 in 1975). Only first professional degrees (e.g., law, medicine) increased substantially over the last decade, from 38,000 to 70,000--an increase of 85 percent (Condition of Education 1982, p. 140). The relatively small overall increases in degree production suggest that fewer students are completing baccalaureate degrees, that they are taking longer to complete them by enrolling part time, or that they are choosing to complete technical or occupational degrees in larger numbers than in earlier years.

The enrollments of students in occupational programs increased substantially between 1970 and 1979. In 1970, just over 150,000 students received formal awards for completing occupational curricula of at least one year, but less than four years. By 1979, that number had grown to over 353,00 students, most of whom received associate degrees in occupational programs of at least two years' duration. Although the number of students completing occupational programs more than doubled over the nine year period, distribution of students among different occupational curricula remained surprisingly stable. For example, in 1970, twenty-two percent of all student completing occupational programs were in health sciences curricula; the proportion was 26 percent in 1979. Business and commerce

students received 33 percent of the occupational program awards in 1970 and 34 percent in 1979.

The data on occupational program awards very likely understate the actual extent of student participation in vocationally-oriented sub-baccalaureate postsecondary education. Many students enroll in a few courses to gain certain skills, but do not complete a degree or certificate. This enrollment pattern is especially prevalent in community colleges, and may be responsible, in part, for the declines in the rate of transfer of community college students from college parallel programs to the upper divisions of senior institutions.

Noncredit Enrollments. Community colleges also enroll the majority of students selecting noncredit programs. A survey conducted in 1975 indicated that, among the collegiate institutions, public two year colleges dominated noncredit enrollments, with 92 percent of all such enrollments (Digest of Education Statistics 1981, p. 91). NCES reports that in 1970, about 660,000 students enrolled in noncredit college programs, constituting about 8 percent of all enrollments. In 1979, approximately 1.5 million students enrolled in noncredit programs, or 13 percent of all students enrolled in college that year.

Noncollegiate Enrollments. In addition to credit and noncredit enrollments in the collegiate sector, a sizable number of students enroll in non-collegiate postsecondary institutions,

primarily to receive occupationally-related training. In 1976, 1.4 million students were enrolled in these schools, which include technical institutes, vocational schools, business schools, schools of cosmetology, trade or design schools, health-related schools, and flight schools. By 1980, enrollments had reached 1.6 million, two thirds of which was concentrated in vocational/technical schools and business schools (Conditon of Education 1982, p. 142). While most enrollments in vocational/technical schools were in the public sector, nearly all students enrolled in business schools were in private institutions (see Table 3).

Adult Education. Another important segment of the college-going population is those individuals participating in adult education. While those adults attending colleges or noncollegiate occupational schools have already been included in earlier discussions of enrollments at those institutions, it is useful to analyze the enrollment of adults separately, because the adult population is increasing while the youth population will decline by around 26 percent between 1978 and 1997 (Three Thousand Futures, p. 34). In fact, the Census Bureau has reported that over one-third of all college students in 1980 were age 25 or older, and that if their enrollment rates remain at the 1980 level, adults may offset the declines in traditional college-age students predicted for the 1980s (Chronicle of Higher Education, May 4, 1981, p. 3).

Table 3. ENROLLMENT IN NONCOLLEGIATE POSTSECONDARY INSTITUTIONS BY TYPE AND CONTROL -- 1976, 1978, 1980

Type and Control of Institution	Number, in Thousands			Percentage Distributions		
	1976	1978	1980	1976	1978	1980
Total	1,399.1	1,495.2	1,623.9	100.0	100.0	100.0
Technical institutes	92.1	34.5	35.3	6.6	2.3	2.2
Vocational/technical schools	495.0	478.4	522.1	35.4	32.0	32.2
Business/commercial schools	339.2	440.5	496.6	24.2	29.5	30.5
Cosmetology/barber schools	133.0	132.4	148.5	9.5	8.9	9.1
Flight schools	72.9	63.3	67.4	5.2	4.2	4.2
Trade/arts and design schools	158.0	195.9	213.2	11.3	13.1	13.1
Health-related schools	71.1	103.8	103.2	5.1	6.9	6.4
Other schools	37.8	46.4	37.7	2.7	3.1	2.3
Public	468.4	451.8	518.0	33.5	30.2	31.9
Technical institutes	41.5	11.0	–	3.0	.7	–
Vocational/technical schools	367.3	405.2	496.5	26.3	27.1	30.6
Business/commercial schools	.8	1.3	1.6	.1	.1	.1
Cosmetology/barber schools	.9	–	.1	.1	–	–
Flight schools	5.5	.4	.1	.4	.0	–
Trade/arts and design schools	34.5	4.0	3.5	2.5	.3	.2
Health-related schools	9.8	14.5	16.2	.7	1.0	1.0
Other schools	8.1	15.4	–	.6	1.0	–
Private	930.7	1,043.4	1,105.9	66.5	69.8	68.1
Technical institutes	50.6	23.5	35.3	3.6	1.6	2.2
Vocational/technical schools	127.7	73.2	25.5	9.1	4.9	1.6
Business/commercial schools	338.4	439.2	495.0	24.2	29.4	30.5
Cosmetology/barber schools	132.1	132.4	148.4	9.4	8.9	9.1
Flight schools	67.4	62.9	67.4	4.8	4.2	4.2
Trade/arts and design schools	123.5	191.9	209.6	8.8	12.8	12.9
Health-related schools	61.3	89.3	87.0	4.4	6.0	5.4
Other schools	29.7	31.0	37.7	2.1	2.1	2.3

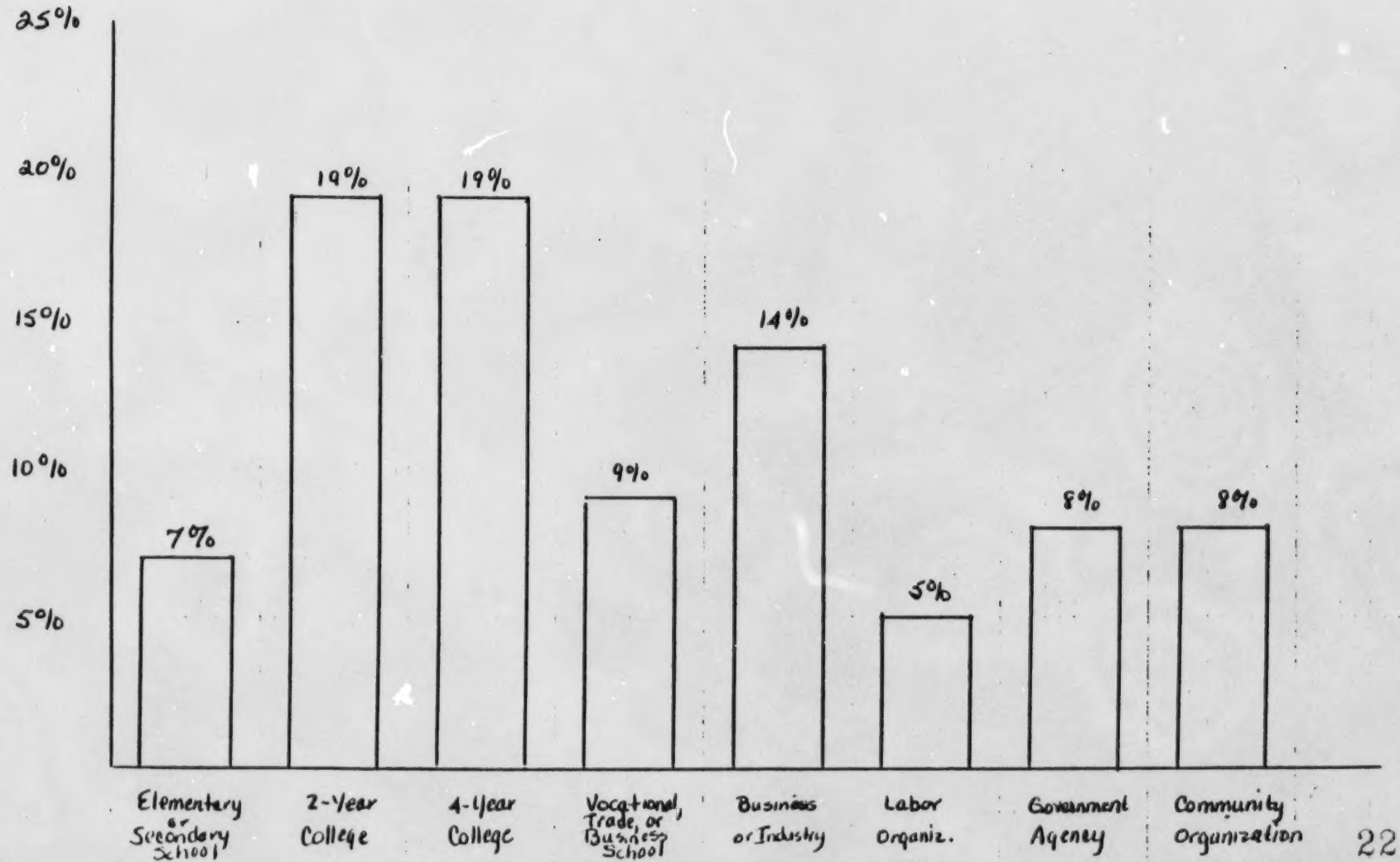
Source: Condition of Education, 1982.

A survey of adults participating in education conducted in 1981 indicated that the majority of the participants did not take courses for formal credit (NCES, unpublished data). Nearly half of the participants (45 percent) enrolled in an educational program to improve or advance in their current jobs, while 27 percent took courses for personal or social reasons.

Just over one-third of the adults surveyed (38 percent) enrolled in courses in two- or four-year colleges (enrollments were divided nearly equally between two- and four-year colleges). Nine percent enrolled in vocational or business schools. Fourteen percent enrolled in courses through a business or industry. Private community organizations provided 8 percent of the courses taken by adults (see Figure 3).

Therefore, it appears that, while adult enrollments have increased in regular postsecondary institutions, both collegiate and noncollegiate, a substantial number of enrollments have occurred in nontraditional organizations, such as commmunity organizations, industry, and labor unions. These data suggest that the potential for increases in adult enrollments in postsecondary institutions may be limited, and that adult students may not present the enrollment bonanza to colleges and universities that some have predicted.

Figure 3. Courses Taken by Adults by Type of Instructional Provider, 1981
(as percentages of all courses taken by adults)



ovider:

Source: NCES, unpublished

III. Finances

Data on the financing of higher education are collected by NCES for all collegiate institutions of higher education. Data on how undergraduate education is financed are not collected separately; therefore, this analysis of finances will discuss all levels of higher education.

Funding Sources. In fiscal year 1980, revenues to U.S. colleges and universities totalled just over $58 billion, over double the 1970 revenue figure of $24 billion. Although revenues increased by nearly $6.5 million between 1979 and 1980 (an absolute increase of 12.5 percent), when adjusted for inflation the increase dropped to approximately 1 percent.

Table 4 shows the major sources of income to public and private colleges and universities as a percentage of total current funds between 1970 and 1980. The significance of a particular revenue source to a college or university differs widely, especially between public and private colleges. For example, private institutions depend heavily upon tuition, which in 1980 represented over one-third (36 percent) of private college revenues. In contrast, public institutions received only about 13 percent of their revenues from tuition. However, public institutions depend upon state funds for much of their revenues; in 1980, nearly half (46 percent) of all public institutional revenues were from state funds. Private institutions also receive a larger proportion of their revenues from private gifts

Table 4. Institutional Revenues By Source As Percent of Total Current Funds — 1970-1980

	1970		1972		1974		1976		1978		1979		1980	
	Pub	Pvt	Pub	Pvt	Pub	Pvt	Pub	Pvt	Pub	Pvt	Pub	Pvt	Pub	Pvt
Revenue Source														
Tuition	12.5%	34.7%	13.7%	35.6%	12.8%	36.0%	13.0%	36.5%	13.1%	36.9%	12.7%	36.5%	12.6%	36.0%
Federal Government	12.3%	12.8%	11.8%	11.8%	11.1%	11.0%	14.9%	19.2%	12.8%	18.9%	13.1%	19.1	8.5%	14.0%
State Government	41.4%	1.3%	40.8%	1.7%	42.4%	2.1%	44.6%	2.3%	45.7%	2.0%	46.4%	2.0%	46.3%	2.0%
Local Government	5.2%	0.8%	5.5%	0.5%	5.6%	0.6%	5.6%	0.9%	5.2%	0.7%	4.2%	0.6%	3.7%	0.8%
Private Gifts	0.4%	7.2%	1.9%	9.7%	0.6%	7.2%	2.3%	10.1%	2.5%	10.0%	2.4%	9.6%	2.5%	9.5%
Endowment	0.4%	5.0%	0.3%	4.6%	0.4%	4.7%	0.4%	4.6%	0.4%	4.5%	0.4%	4.8%	0.5%	4.9%
Auxiliary Enterprises	12.5%	15.1%	11.8%	14.1%	10.9%	13.4%	10.8%	12.9%	10.8%	12.5%	10.5%	12.2%	10.5%	12.0%

Source: HEGIS Financial Surveys, 1970-1980.

and from endowments than do public institutions--a total of 15 percent for the two revenue sources for private colleges, compared with 3 percent for public colleges

Table 4 also traces changes in the proportion of institutional revenues between 1970 and 1980. Despite the numerous factors affecting the higher education system during the past decade--changes in federal policy, enrollment fluctuations, and changes in the general economic health of the nation--the share that most revenue sources represent in institutional budgets has remained remarkably constant. The 1980 figures show a sharp decline in federal funds as a percentage of institutional revenues, but otherwise, the pattern of revenues in college budgets in 1980 resembled closely the pattern of 1970.

When revenue patterns are examined by type and control of institution, the substantial differences in funding patterns among institutions become clearer. Table 5 displays revenue sources as a percent of total revenues in 1980 for each type of public and private institution. The table shows that even among institutions which are all public or all private, substantial differences exist. For example, public two-year colleges are heavily dependent upon state and local government funds (51 percent and 17 percent respectively--totalling over two thirds of two-year colllege revenues), while public universities receive less than half of their revenues (about 42 percent) from state and local funds, and public four year colleges receive exactly

Table 5. Distribution of Revenues by Source for Colleges and Universities by Type and Control — 1980*

(in 000)

Revenue Source	Public			Private		
	Univ.	Other 4-Year	2-Year	Univ.	Other 4-Year	2-Year
Tuition & Fees	$2,011,578 (12.3%)	$1,815,464 (11.8%)	$1,031,170 (14.7%)	$2,522,999 (27.3%)	$4,255,865 (43.1%)	$ 277,597 (56.6%)
Federal Government	2,544,055 (15.5%)	1,967,863 (12.8%)	500,527 (7.1%)	1,844,943 (19.9%)	871,995 (8.8%)	26,067 (5.3%)
State Government	6,788,851 (41.5%)	7,541,197 (49.2%)	3,597,410 (51.4%)	151,833 (1.6%)	220,498 (2.2%)	14,695 (3.0%)
Local Government	38,559 (0.4%)	200,503 (1.3%)	1,168,134 (16.7%)	76,464 (0.8%)	71,919 (0.7%)	5,226 (1.1%)
Private Gifts	629,384 (3.8%)	314,962 (2.1%)	29,516 (0.4%)	800,416 (8.6%)	1,008,404 (10.2%)	49,405 (10.1%)
Endowment	143,524 (0.9%)	42,468 (0.3%)	5,260 (0.1%)	514,064 (5.5%)	445,187 (4.5%)	9,018 (1.8%)
Auxiliary Enterprises	2,089,050 (12.8%)	1,548,103 (10.1%)	429,167 (6.1%)	823,828 (8.9%)	1,447,258 (14.7%)	81,870 (16.7%)
Total Current Funds	$16,376,362 (100%)	$15,315,968 (100%)	$ 7,005,048 (100%)	$9,256,278 (100%)	$9,867,003 (100%)	$ 490,263 (100%)

Source: NCES — HEGIS Financial Survey, 1980 (unpublished data).

* Does not include federal student aid.

half of their revenues from state and local governments.

Similar differences are evident among institutions in the private sector. Private two-year colleges are heavily dependent upon tuition (57 percent), while universities are much less so. Not unexpectedly, private universities rely on federal funds for a larger share of their revenues (20 percent) than do four- or two-year colleges.

Funding for Credit and Noncredit Activities. It is more difficult to trace colleges' funding sources and expenditure patterns for credit and noncredit activities. Institutional practices differ, and public institutions in some states receive no state funds for noncredit programs.

Data are not collected by NCES in a manner that will allow the separation of credit and noncredit activities. The "Instruction" expenditure category included in the annual survey of institutional finances in higher education consists of funds spent for both credit and noncredit activities, and provides no breakdown by whether credit is given. The problem is similar for extension services, for the "Public Service" expenditure category includes noninstructional projects for the benefit of the community (community services) as well as cooperative extension services. In 1980, U.S. colleges and universities spent $1.8 billion on "public service," 83 percent of which was expended by public colleges and universities.

Voluntary Support. Through 1980, colleges and universities

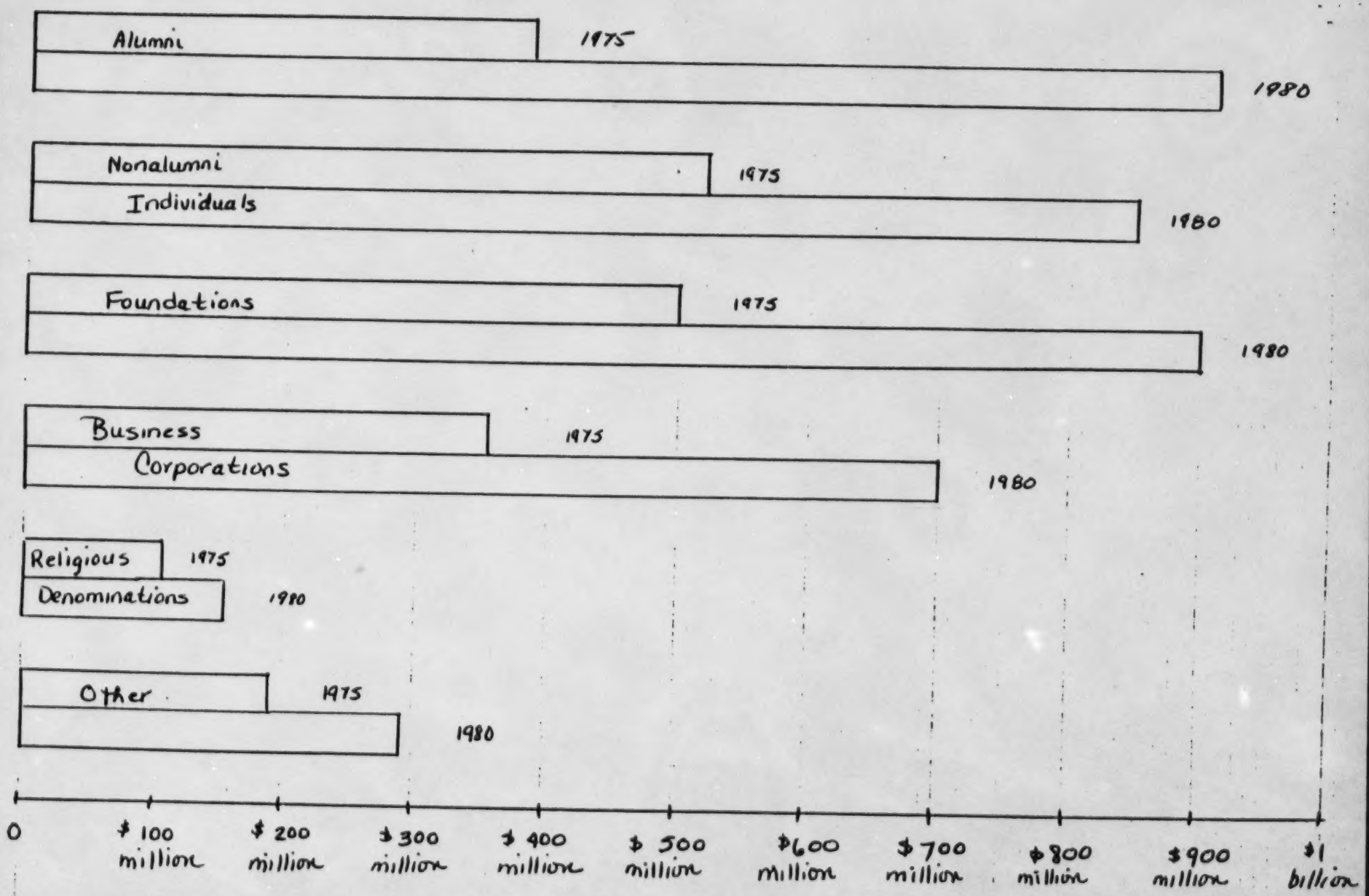
were successful at maintaining a relatively constant proportion of resources from private sources. In the years between 1975 and 1980, voluntary support rose faster than the rate of inflation, totaling approximately $3.8 billion in 1980 (see Figure 4). The largest increase was in support by corporations, which nearly doubled their total gifts between 1975 and 1980, while individual donors also increased their contributions substantially. Although the largest increase in giving was in the corporate sector, alumni donations accounted for the largest amount of private gifts, totaling $910 million in 1980. Foundations gave approximately $900 million, and corporations gave approximately $700 million in 1980.

While support from the private sector strengthened during the last half of the 1970s, changes in the tax laws could potentially reduce giving. It has been estimated that giving by individuals between 1981 and 1984 may be reduced by approximately $18.3 billion (Chronicle of Higher Education, September 9, 1982).

Tuition. Tuition is an important revenue source for all institutions, irrespective of whether they are public or private. In addition, tuition levels vary substantially by institution type, control, and geographic location.

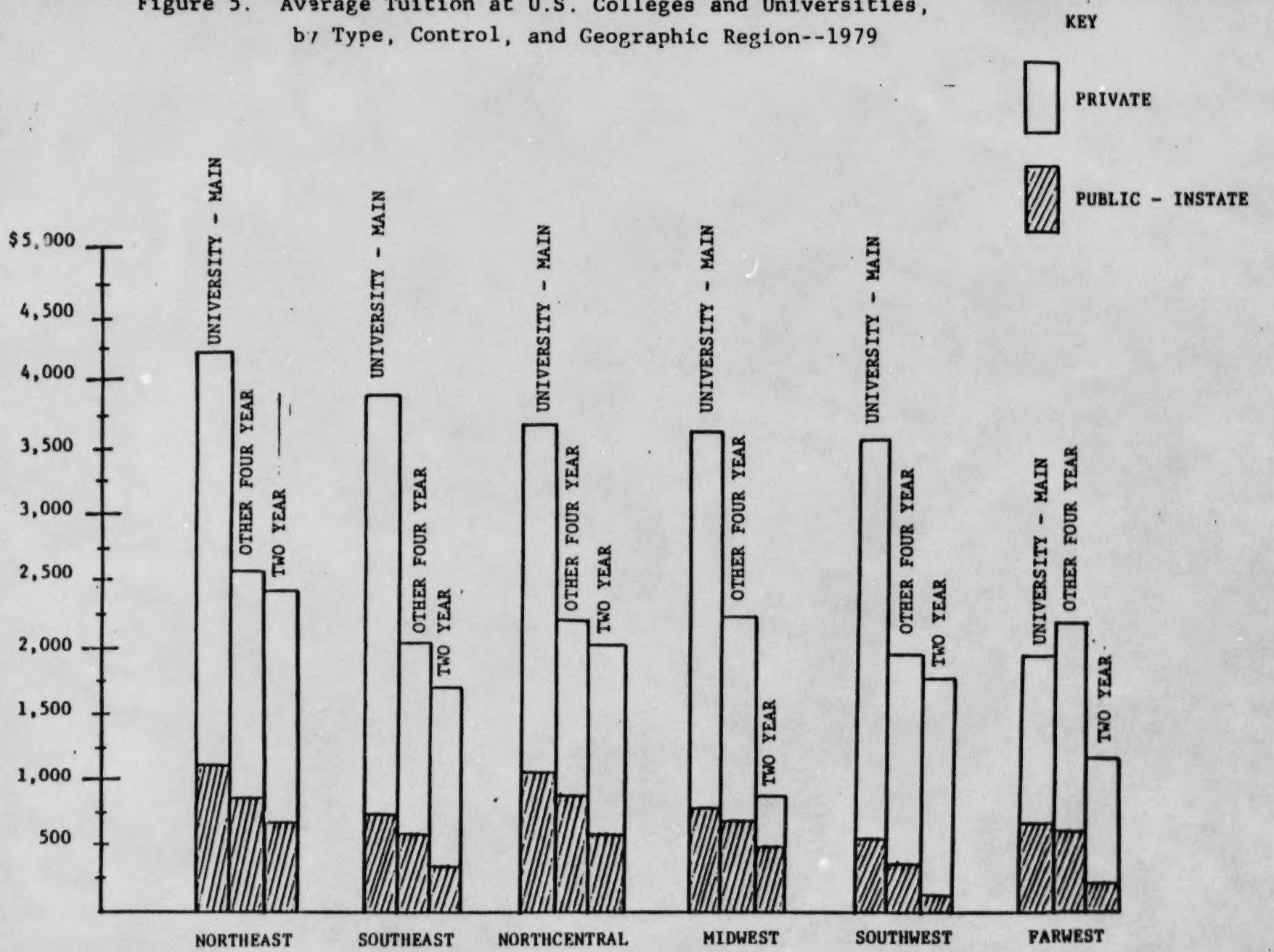
Although the cost of living varies by geographic region, tuition differences by geographic region are larger than would be expected if the cost of living were the only influential factor. Figure 5 displays average tuition charges by geographic

Figure 4. Voluntary Support for Higher Education by Source, 1975 and 1980



Source: Council for Financial Aid to Education,

Figure 5. Average Tuition at U.S. Colleges and Universities, by Type, Control, and Geographic Region--1979



Source: HEGIS Financial Survey, 1979

region, institution type and control. Tuition at all types of colleges--universities, other four-year colleges, and two-year colleges--is much higher in the northeast region than in other areas of the United States. Similarly, tuition at all types of colleges is higher in the north central region (the industrialized midwest states) than in the south, southwest, or western states. Even among public community colleges, often considered to be low cost institutions, average tuition varies among geographic regions.

The amount of tuition charged by a college or university is directly related to its ability to attract all but the most affluent students. For example, the Congressional Budget Office has estimated that a one-hundred dollar decrease in college costs in academic year 1979-80 could have increased by approximately one percent the likelihood that low and moderate income students would attend college. (CBO, Federal Student Assistance: Issues and Options, 1980, p.6). One percent of total enrollment in 1979-80 (which was approximately 11.5 million) would have provided colleges with 115,00 more students. These estimates dramatize the importance of the tuition pricing decisions made by higher education institutions and the potential impact of large changes in Federal student aid.

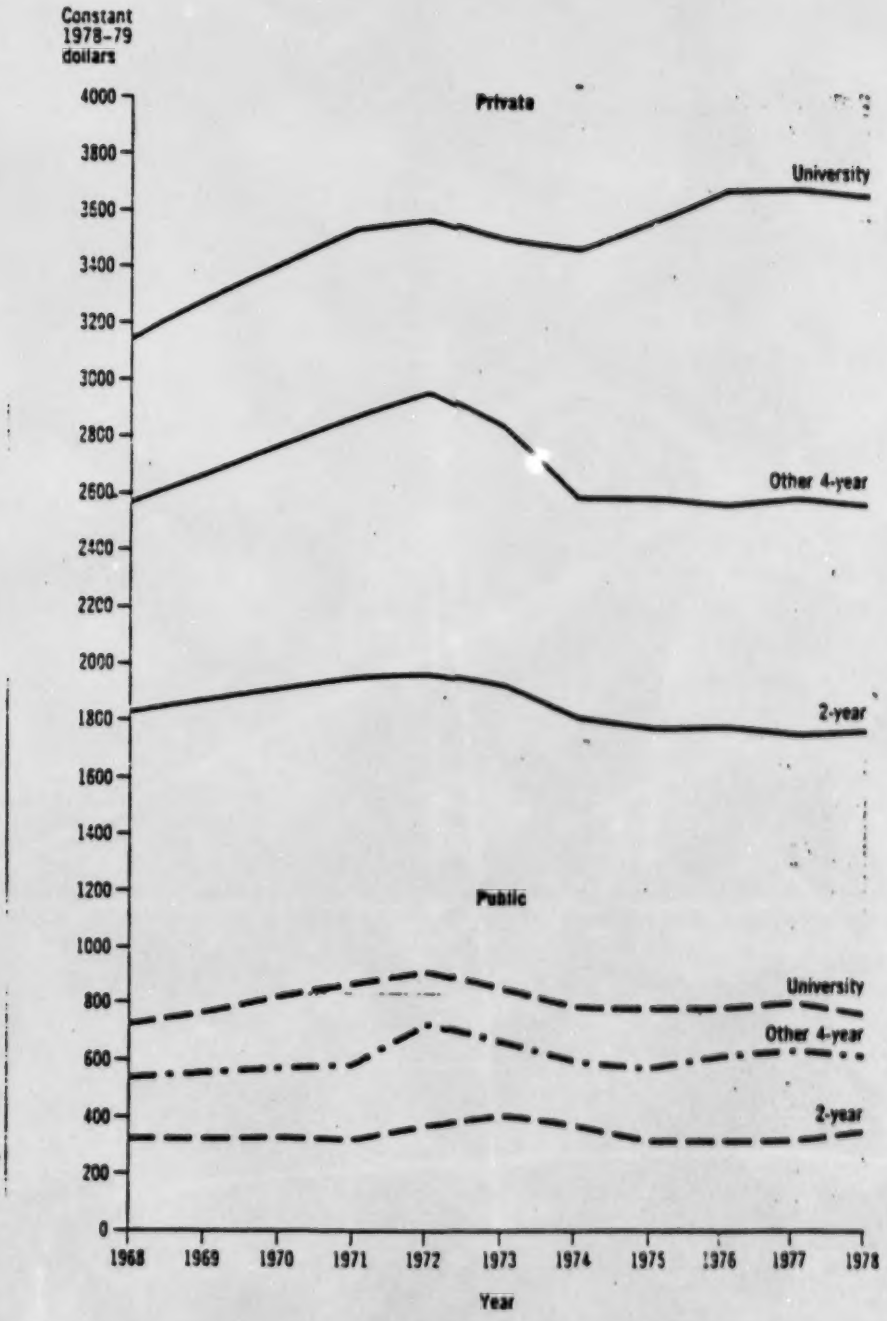
Colleges and universities appear to have understood this trend, for tuition at most institutions has risen more slowly than the rate of inflation since 1968, and actually declined in

relation to inflation at private four- and two-year colleges (see Figure 6). Tuition has fluctuated at public instututions, but has increased more sharply than private college tuition. For all sectors of higher education, tuition increases have been modest when compared with the sizable jump in the rate of inflation during the late 1970s and into the early 1980s.

Recent tuition increases, however, have been larger than the increases of the 1970s. Data collected by the College Board indicate that tuition at four-year colleges increased by 15 percent between fall of 1980 and 1981, and had increased 12 percent the previous year. Public college tuition increased more between 1980 and 1981 than did private college tuition at four-year colleges (16% versus 13%) while tuition at two-year colleges increased by 4.7 percent at public and 6.5 percent at private institutions during the same period.

Despite the greater tuition increases at public colleges over the past several years, the gap between public and private college tuition remains sizable. The College Board reported that average tuition charges at four-year public colleges were approximately $706 per year in 1981-82, while average tuition at four-year private colleges was $3,279 per year in that same year. The impact of public subsidy on tuition differentials for public and private colleges is evident when tuition is expressed as a proportion of total costs of attending college. Tuition and fees at public four-year colleges were 21 percent of total costs,

Figure 6. Average Tuition at Colleges and Universities in Constant Dollars, by Type and Control, 1968-1978



Source: NCES, Condition of Education, 1980, p. 159

but were 54 percent of total costs at private four-year colleges. At two-year colleges, tuition and fees represented 15 percent of the cost of attending public, and 47 percent of the cost of attending private institutions (College Board, The College Cost Book, 1980-81, p.11).

Costs of attending college differ for residential and nonresidential students, and by whether a student attends full- or part-time. The College Board collects data each year on college costs for each type of college and university, including proprietary schools, for residential and nonresidential full time students (see Table 6). Tuition for part-time students would depend on the number of credit hours taken; institutional charges per credit vary widely.

Student Aid. The growth in federal support for student aid over the last fifteen years has been meteoric. From a total appropriation in 1965 of just over $200 million, federal student aid funds rose to over $1.3 billion in 1970, to $3.3 billion in 1975, and to nearly $9 billion in 1980 (including funds for Guaranteed Student Loans).

Both public and private colleges have benefitted from federal student aid. In 1979-80, the Pell Grant Program, at that time the largest of the federal student aid programs, gave 1.6 million students attending public colleges $1.5 billion dollars, and awarded over half a billion dollars to 590,000 students attending private colleges. During that same year, over 2.3

Table 6. Average Costs for Students at Colleges and Universities by Residential Status, Type and Control of Institution — 1980-81

Residential Students

	Public 2-year		Private 2-year		Public 4-year		Private 4-year		Proprietary*	
Tuition and fees	$ 464	15%	$ 2,079	45%	$ 706	21%	$ 3,279	54%		
Books and supplies	218	7%	213	5%	235	7%	242	4%		
Room and board	1,508	48%	1,606	35%	1,620	48%	1,746	29%		
Personal expenses	571	18%	495	10%	586	17%	524	9%		
Transportation	362	12%	235	5%	262	7%	291	4%		
Total expenses	$ 3,123	100%	$ 4,592	100%	$ 3,409	100%	$ 6,082	100%		

* Sample too small to provide meaningful averages.

Non-Residential Students

	Public 2-year		Private 2-year		Public 4-year		Private 4-year		Proprietary	
Tuition and fees	$ 464	17%	$ 2,079	51%	$ 706	24%	$ 3,279	61%	$ 2,342	52%
Books and supplies	218	8%	213	5%	235	8%	242	5%	243	6%
Board	965	35%	914	23%	884	31%	924	17%	1,002	22%
Personal expenses	569	21%	472	12%	568	20%	537	10%	492	11%
Transportation	537	19%	361	9%	483	17%	401	7%	407	9%
Total expenses	$ 2,753	100%	$ 4,039	100%	$ 2,876	100%	$ 5,383	100%	$ 4,486	100%

Source: The College Board, The College Cost Book, 1980-81, p.11.

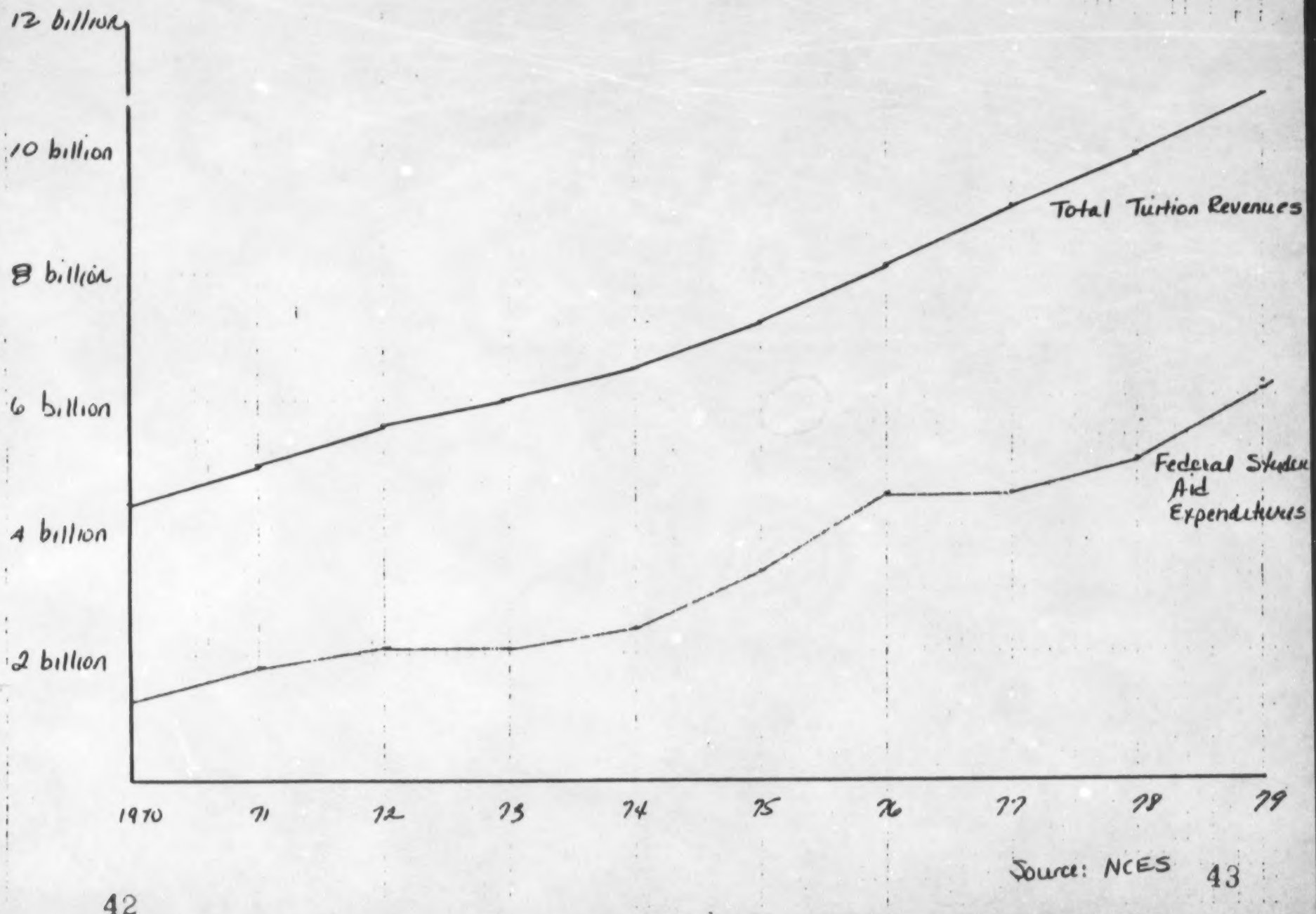
million college students (approximately 19 percent of all college students that year) received federally guaranteed student loans, averaging $2,100 each (U.S. Department of Education, Office of Student Financial Aid Program Book, 1981).

Federal student aid funds have increased much faster than either tuition revenues or total institutional expenditures. Federal aid expenditures in 1970 were $1.3 billion, or approximately thirty percent of tuition revenues for all colleges and universities. In 1975, federal aid totaled $3.3 billion, or 46% of all tuition income that year. By 1979, federal student aid had leaped to $7.1 billion, or 66% of all tuition revenues (see Figures 7 and 8). Therefore, colleges appear not to have increased their tuition in response to higher levels of federal aid funding.

Similar comparisons of federal aid funding and institutional educational and general (E & G) expenditures demonstrate that college expenditures have not risen at as fast a rate as federal student aid funding. In 1970, federal aid was 8% of E & G expenditures. The proportion increased to 12% in 1975 and stood at 18% in 1979 (see Figures 8 and 9). As with tuition levels, colleges have not increased their spending at the same rate as the rise in federal student aid spending.

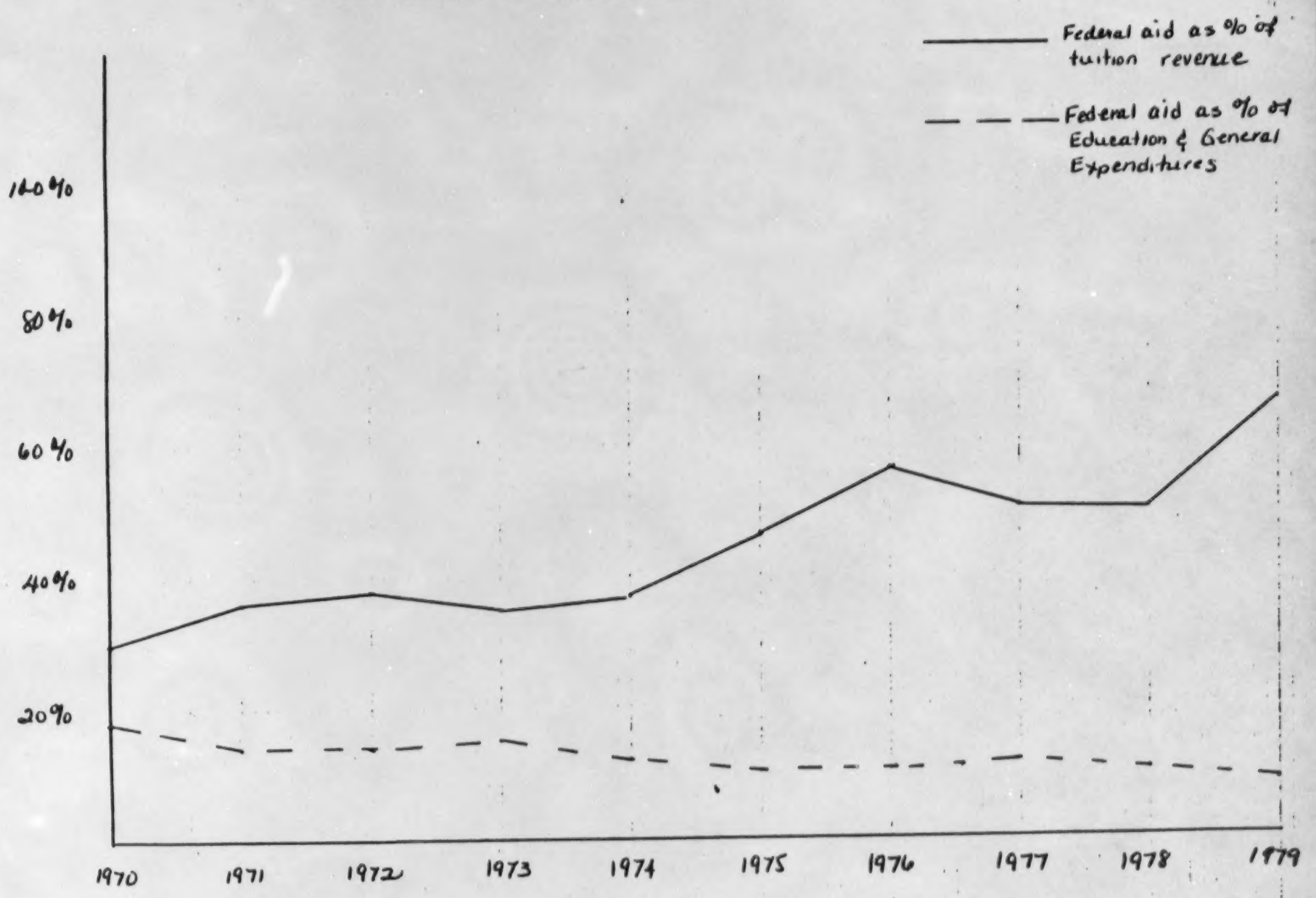
In 1979, one half of all federal aid recipients were members of racial/ethnic minority groups. Blacks made up thirty percent of federal aid recipients, each receiving an average award of

Figure 7. Tuition Revenues and Federal Student Aid Expenditures in Higher Education, 1970-1979



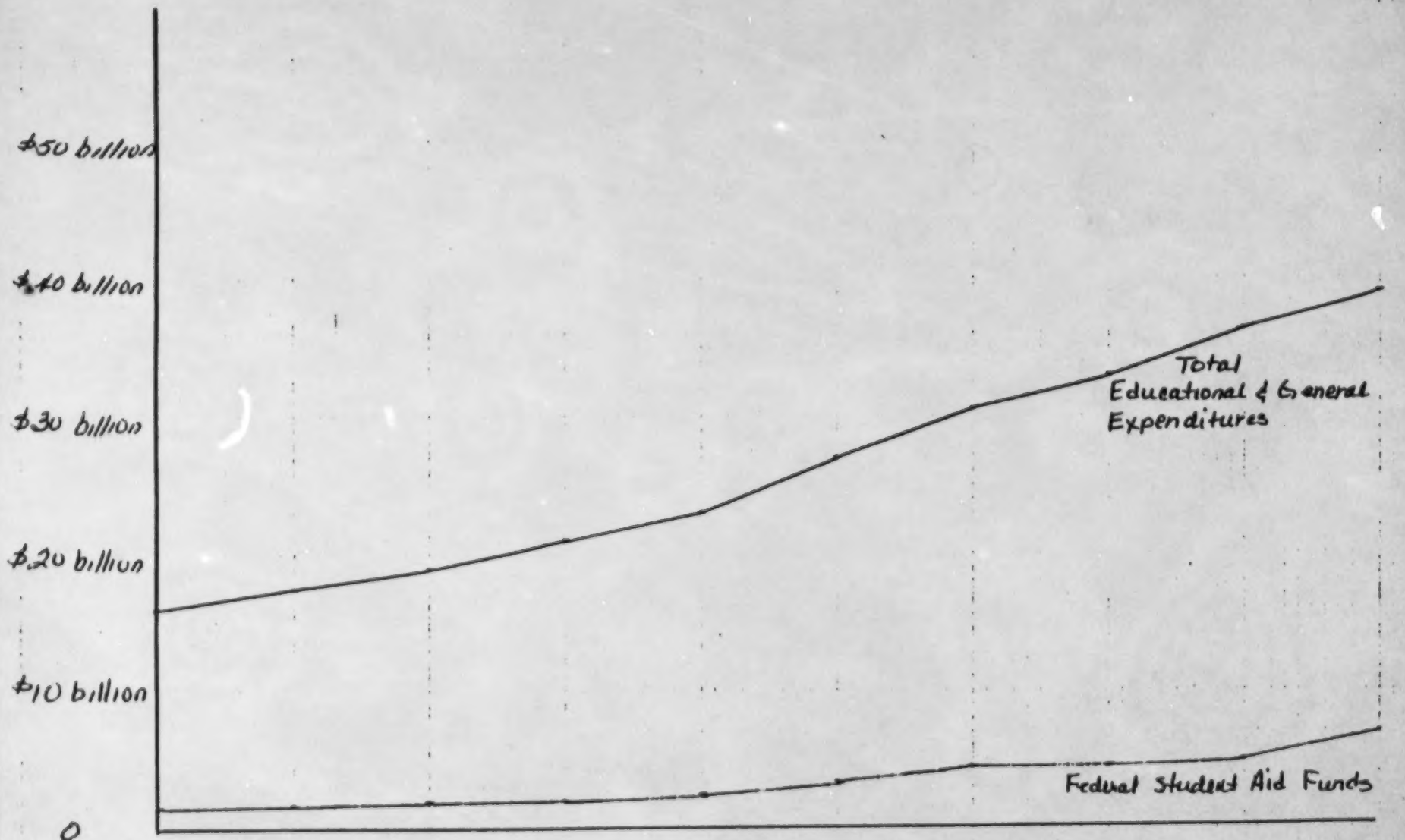
Source: NCES

Figure 8. Tuition Revenues and Education & General Expenditures as a Percentage of Federal Student Aid Expenditures, 1970-1979



Source: NCES and OSFA, Office of Postsecondary Educ

Figure 9. Educational & General Expenditures Compared with Federal Student Aid Expenditures in Higher Education, 1970-1979



nearly $1,800. Hispanics were fourteen percent of aid recipients, receiving an average of $1,200 each. Nearly half of all federal aid recipients that year were freshmen, which indicates that these funds were an important source of access to college for new students.

Federal student aid has provided access to higher education for low income students, especially for those students who wish to attend private (i.e., higher cost) institutions. In 1979, a study conducted by the U.S. Department of Education found that 76 percent of all dependent college students whose annual family income was under $6,000 received some form of federal student aid. There were sizable differences in the percentage of low income students receving federal aid depending upon the type of institution the student attended. Of those students whose family income was less than $6,000 and who attended private four-year colleges and universities in 1979, 85 percent received some form of federal aid (excluding Guaranteed Student Loans), while only 60% of students from the same income level who attended public community colleges received federal student aid. Low income students attending proprietary schools comprised the highest proportion of students receiving federal aid (92 percent). These patterns of differential participation in federal aid programs by type of institution attended were similar for all income levels, although the proportion of students receiving aid declined as family income increased (U.S. Department of Education, Office of

Student Financial Assistance Program Book, 1981).

Because of its magnitude and pervasiveness, federal aid has tended to overshadow the commitments made by states to financial assistance for college students. For example, in 1979, state student aid funds represented approximately 1.5% of all institutional revenues, compared with nearly 10% for federal funds. In 1980 states provided approximately one billion dollars in financial aid to college students.

On the whole, private four-year colleges have tended to receive a substantially larger share of federal student aid funds (see Table 7). Proprietary schools and public four-year colleges and universities received roughly equivalent amounts of federal student aid in 1979-80.

Faculty salaries. In 1980, expenditures for instruction consumed approximately one third (32.5%) of all college and university budgets--the biggest single budget item overall. At most institutions, the largest proportion of the instructional budget is devoted to faculty salaries.

Expenditures for instruction increased by 141 percent between 1970 and 1980, while faculty salaries, on the average, increased by only two thirds (66.6 percent) over the decade (AAUP, 1980). When the effects of inflation are taken into account, faculty salaries in real dollars declined by approximately 19 percent overall between 1970 and 1980.

Even though instructional expenditures have increased faster

Table 7. Federal Student Aid Expenditures*
1979-80

(in 000)

Program	Public		Private		Proprietary
	4-Year	2-Year	4-Year	2-Year	
Pell	$992,215	$521,409	$626,348	$60,135	$252,359
NDSL	288,078	31,299	264,480	10,447	51,385
SEOG	130,716	39,418	130,599	6,707	25,352
CWS	263,908	92,347	221,698	10,280	8,286
SSIG	39,700	11,200	44,700	1,900	1,000
Total	$434,324	$695,673	$1,287,825	$89,469	$427,851

* Does not include Guaranteed Student Loans.

Source: U.S. Department of Education, Office of Student Financial Assistance, Program Book, 1981.

than have faculty salaries, many institutions have hired part-time faculty, paid on a per-credit hour or a per-course basis, to reduce the pressure on instructional budgets. Between 1972 and 1976, the number of part time faculty increased by 54 percent, from just over 130,000 to over 200,000 (NCES, 1980). In 1980, there were just under 400,000 full time faculty in U.S. colleges and universities.

Faculty salaries and instructional budgets will continue to trouble colleges and universities throughout the 1980s as the average age of faculty and the number holding tenure both increase. Overall, approximately two thirds (65 percent) of all full time faculty were tenured in 1980. Now that the mandatory retirement age has been raised to seventy, a largely tenured, aging faculty will squeeze instructional budgets as faculty demand annual raises commensurate with inflation at the same time that predicted enrollment declines lead to reduced tuition income for many colleges.

Cost Squeezes. Colleges and universities will face budget problems from several sources in the 1980s. A brief notation of each problem area will complete this section on financing higher education.

The problem of faculty salaries has been described in the previous section. This problem will be exacerbated if enrollment declines predicted for the 1980s and early 1990s materialize. The Carnegie Commission estimated that undergraduate enrollments

may decline by an overall average of ten percent between 1980 and 1997 (Three Thousand Futures, p. 45). A ten percent decline, using 1980 enrollment figures, would represent over 1.1 million fewer college students. It is unlikely that such a decline will affect all colleges and universities equally; the Carnegie Commission has predicted that the institutions most vulnerable to enrollment declines will be the less selective liberal arts colleges and private two-year colleges (pp. 60-61).

Another source of financial constraints for colleges and universities in the 1980s will be levelling state appropriations for public colleges and universities. Between 1971 and 1981, state appropriations for higher education increased by 197 percent in whole dollars, or by 33 percent when the effects of inflation are controlled. However, between 1979 and 1981, state appropriations, when adjusted for inflation, actually declined by four percent (data collected by M.M. Chambers, reported in 15-Minute Report, October 1981, p. 3). Tax reduction initiatives, reductions in federal spending for higher education, and proposed "new federalism" programs suggest that state support for higher education is not likely to return to the levels of the early and mid-1970s.

The section on enrollments described the recent increases in enrollments of part-time students. While increased part-time enrollments help to fill classrooms and provide increased tuition income, colleges and universities incur heavier expenses in

relation to the income derived from part-time students than from full-time. Part-time students must be registered, grades must be recorded, counseling and other services must be provided, just as they are for full-time students. Therefore, it is more costly for a college or university to enroll four students taking one course each than it is for the college to enroll a full-time student taking four courses.

A fifth area of financial concern to colleges and universities is physical plant renewal. For a number of years, college administrators facing budget pressures have deferred maintenance on classroom and dormitory buildings, using scarce funds for staff salaries and student services instead. Buildings constructed during the enrollment boom of the late 1950s and early 1960s are now nearly 25 years old, and require renovation and maintenance. Unfortunately, data have not been collected concerning the amount of maintenance which has been deferred and the cost of such deferral. However, one source has estimated that colleges and universities may need to spend a total of $35 billion to perform the maintenance that they have deferred since the 1960s (Mortgaging the Future, 1979, p.1).

In addition, colleges and universities have been required by law to make their buildings and educational programs accessible to handicapped students. NCES has estimated the cost of compliance with Section 504 of the Rehabilitation Act of 1973 at $561 million for capital improvements, primarily renovation to

make buildings accessible to mobility impaired students. (NCES, The Impact of Section 504, 1979). However, a study conducted by the National Association of College and University Business Officers determined that the NCES estimates were "very low," and noted that public institutions had spent an average of $423,255 each between 1976 and 1981 to modify their buildings, while private institutions had spent approximately $121,000 each. (Business Officer, April 1981, p.24). If all public and private colleges and universities spent these respective average amounts for facilities renovation to comply with Section 504, the total would be $825 million. Further data collection is needed to understand the cost of compliance and the degree of compliance with the Rehabilitation Act.

IV. Availability of Information on Undergraduate Education

Although a substantial amount of data is available on higher education in general, very little of the data are collected separately for undergraduate education. Although enrollment data are available from NCES for undergraduate education, there is little information about the financing of undergraduate education or the scope of undergraduate education in relation to the entire higher education enterprise.

It would be helpful, in developing student aid policy, to have more information about student enrollment patterns. For example, it would be helpful to obtain data on part-time and

full-time students concerning their educational goals, their plans for attending college, the factors affecting their choice of major, and the way they are financing their education. Although the Higher Education Research Institute collects some of this information for first time, full time freshmen, data collection should be expanded to include part time and returning students as well. Especially useful would be longitudinal studies of college students to ascertain dropout, stopout, and re-entry rates of college students.

Data need to be gathered as well which distinguish credit and noncredit enrollments and how noncredit activities are funded. Better information is needed about the demand for noncredit instruction and its role vis-a-vis regular credit offerings of colleges and universities.

We also need better information about the resilience of various student markets to changes in federal funding levels. Studies need to be done which develop models to predict the enrollment shifts which will occur if federal aid is reduced. We need better information concerning institutional dependency--as well as student dependency--upon federal student aid.

Finally, we need better information, available more quickly, about the higher education enterprise now so that we can begin to predict its future. In July, 1982, HEGIS data on higher education finances and enrollment for 1980 were not yet available. Census data on school enrollment for Fall, 1980, were

not available by mid-1982. Rapid access to current data is critical if planning is to be effective.